

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Weed/Hawk Creek 3-D Phase 2 Seismic Permit #1595
Proposed Implementation Date:	December 2013/January 2014
Proponent:	Mowrey Seismic and Vecta Oil & Gas
Location:	Lots 3 and 4, S½NW¼, S½ of Section 4, Township 7 North, Range 31 East (490.3 acres) NW¼NW¼, S½NW¼, SW¼ of Section 10, Township 7 North, Range 31 East (200 acres) Section 36, Township 8 North, Range 30 East (640 acres) Section 16, Township 8 North, Range 31 East (640 acres) Section 20, Township 8 North, Range 31 East (640 acres) N½N½ of Section 28, Township 8 North, Range 31 East (160 acres) E½E½, SW¼SE¼ of Section 32, Township 8 North, Range 31 East (200 acres)
County:	Yellowstone and Musselshell Counties
Trust:	Common Schools

I. TYPE AND PURPOSE OF ACTION

The Proponents have applied to the DNRC for a Seismic Exploration Permit to conduct a 3-D seismic project on State lands listed above in Yellowstone and Musselshell Counties. The acquisition of this subsurface data will aid in the search for oil and gas development by more accurately defining drill targets and potentially lessening the number of wildcat wells. Vecta Oil & Gas is the current state oil and gas lessee on five parcels, while Cabot Oil & Gas Corp has oil and gas leases on 16-8N-31E and 20-8N-31E. The proposed project would encompass 2,970.3 surface acres of Trust land and would utilize Vibrosis units to acquire the data. Receiver lines would be aligned in a Southwest-Northeast direction every 880 feet and along these lines there would be receiver/geophone points placed. Additionally, source lines would be placed in a Southeast-Northwest alignment across the project area and be spaced every 880 feet with source points placed at specified intervals. The source points for both lines would be offset to avoid any areas of rough terrain, creeks, wetlands or cultural sites. A data recording truck would record all information from the cables.

Surface impacts to the Trust land would result from the vibrating platform and the motorized vehicles on the ground. The project will be completed by laying line and geophones on both State and private lands at the same time with this phase of the seismic project lasting approximately 4 weeks and would temporarily disturb the immediate area during that time. Rubber-tired motorized vehicles consisting of ATVs, pick-up trucks, vibrator vehicle, and a data recording truck would be used for all proposed activities, along with foot travel where possible for line location/relocation. Vehicles would be allowed to access the proposed route off of the existing roads provided the most direct, least erodible route is utilized.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

No formal public scoping was performed by the Southern Land Office (SLO) for this proposed project. The state grazing lessees Mackay Livestock, Monte Meredith and Fire Ridge Ranch, LLC were all contacted by Mowrey Seismic and lessee settlements were obtained.

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

None.

3. ALTERNATIVES CONSIDERED:

Proposed Alternative: Approve the issuance of Seismic Permit #1595 to allow 3-D seismic work on approximately 2,970.3 surface acres of State Trust land in Yellowstone and Musselshell Counties.

No Action Alternative: Deny the request to issue Seismic Permit #1595.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT
<ul style="list-style-type: none">• <i>RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.</i>• <i>Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.</i>• <i>Enter "NONE" If no impacts are identified or the resource is not present.</i>

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

The soils in the proposed project area vary due to its large geographic footprint; however the work is currently proposed to occur while the ground is frozen. Some exposed ridges, outcrops and steep slopes exist and a stipulation will be put on the Permit to prohibit vehicle travel on slopes that exceed 25%. All motorized vehicle use would be limited to existing roads and cross country by the most direct, least erodible route off of an existing road to place and retrieve the cables, and drive the vibrating vehicle and recording vehicle. Additionally, motorized vehicle use would occur only during dry or frozen soil conditions to minimize any soil erosion, compaction, and rutting. It is expected that most work will be completed in December 2013 and January 2014 while ground is frozen with some snow cover. Any and all disturbed areas will be required to be re-seeded with a native grass seed mix when soil conditions are appropriate. No significant impacts are anticipated by the granting of the Permit.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

Lots 3 and 4, S½NW¼, S½ of Section 4-T7N-R31E: Wolf Spring Creek runs through the SW¼SW¼ of this parcel and the seismic layout will avoid crossing this intermittent waterway. Additionally, the grazing lessee has a stockwater tank on the NW¼SE¼ which is also shown as being avoided on the seismic plans.

NW¼NW¼, S½NW¼, SW¼ of Section 10-T7N-R31E: Wolf Spring Creek runs through the NW¼ generally running west to east and bisecting the quarter. There is also a stockwater tank on the midsection line in the NE¼SW¼ and a stockwater pipeline that serves the tank and comes from the northwest corner of the section. There is also a reservoir located in the NE¼SW¼. The seismic plans show the lines avoiding the above-described water features.

Section 36-T8N-R30E: An unnamed tributary of Hawk Creek runs diagonally through the NE¼ of the section. There are also two reservoirs that are located along this unnamed creek on the Trust land. There is also a well located on the north section line in the middle of the section and a stockwater tank located south of the well in the NE¼NW¼. The seismic layout avoids the water features on this parcel.

Section 16-T8N-R31E: The seismic work is only proposed on approximately the south half of this section, which is also where Alkali Creek flows through the parcel. There is also a reservoir on the State that is located on Alkali Creek. The seismic plans generally appear to avoid these water features.

Section 20-T8N-R31E: An unnamed tributary of Alkali Creek runs from the southwest to the northeast through the SE¼ and NE¼ and exits the parcel near its northeast corner. There is also a small reservoir on this unnamed creek in the NW¼SE¼. Finally, there are two stockwater pipelines that radiate out from the middle

of the section. The first runs through the SE¼NW¼ and SW¼NW¼ while the second goes through the NE¼SW¼ and SW¼SW¼. The seismic route appears to avoid all of the water features listed above in this section.

N½N½ of Section 28-T8N-R31E: An unnamed tributary of Alkali Creek runs north through the NE¼NE¼. There is also a stockwater tank in the NW¼NW¼.

E½E½, SW¼SE¼ of Section 32-T8N-R31E: Weed Creek runs from west to east through the NE¼NE¼ of the parcel.

A stipulation will be added that will require a 300 foot minimum separation from existing dams, wells, or springs as well as a 150 foot minimum separation from any pipeline. Based on these restrictions no significant adverse impacts to water quality, quantity or distribution are anticipated.

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

No significant impact is expected to air quality, although there may be a minor temporary increase in particulate emission from machinery during the proposed seismic activities. No significant impacts are anticipated.

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

The nature of the proposed activity will cause some vegetative disturbance due to the need to drive across areas which do not presently have established roads. However, all motorized vehicle use would be limited to existing roads and cross country travel would be by the most direct, least erodible route off of an existing road to place and retrieve the seismic cable, and drive the vibrating vehicle and recording vehicle. The immediate area where the vibrating weight platform is placed on the ground would cause some vegetative disturbance. All vehicles would be required to be washed, particularly the undercarriage, to assure removal of dirt and plant material and seeds prior to entering the tract. All motorized vehicle use would occur only during dry or frozen soil conditions to minimize soil erosion, compaction, and rutting. Additionally, if the work occurs during frozen conditions when the sagebrush is brittle, it could have a short term positive impact by increasing forage production in the upcoming season. Any and all disturbed areas would be seeded with a native grass seed mix when soil conditions are appropriate. A search of the Montana Natural Resource Information System (NRIS) database revealed no unique plants on these parcels. No significant adverse impacts are expected.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

A variety of big game (elk, mule deer, white-tail deer and antelope), small mammals, raptors, songbirds, turkeys and grouse may traverse this area. Proposed project activities could temporarily disrupt wildlife movement and patterns. Due to the limited duration and area proposed for the project activities most nesting and calving activities should not be affected. No significant impacts to terrestrial, avian and aquatic life and habitats are expected to occur as a result of implementing the proposed alternative.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

A proposed project area search of the Montana Natural Heritage Program database identified one vertebrate animal listed as a species of concern or threatened species on the seven subject Trust land parcels. The Black-tailed Prairie dog was the listed species and there is a town on a small portion of Section 16-8N-31E.

Therefore, no significant adverse impacts to endangered species are expected by implementing the proposed action.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

The DNRC Archaeologist typically does not anticipate impacts when this type of activity is proposed, provided it is limited to times when the ground is dry or frozen. Additionally, the current timeline would allow for the seismic work to be conducted while the ground is frozen. A stipulation will be added to the Permit that would require immediate notification of the DNRC if any archaeological, historical or paleontological resources are located during the proposed project activities. An additional stipulation will require that the Permittee not conduct seismic activities within 150 feet of a historic cabin located in the NE¼NW¼ of Section 28-8N-31E. No significant adverse impacts are anticipated.

11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

The proposed project area is located in a sparsely populated area of northeastern Yellowstone County and southeastern Musselshell County with very few residences. Due to its location and the relatively short duration of actual proposed project activities, aesthetics are not anticipated to be adversely affected.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

No significant impacts to environmental resources of land, water, air or energy are expected as a result of implementing the proposed alternative.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

There are no other known state environmental reviews taking place in the immediate area. Depending on the results of the geophysical data, there could be a request to drill on one or more parcels of Trust land and such a request would require a separate environmental review at that time.

IV. IMPACTS ON THE HUMAN POPULATION
<ul style="list-style-type: none">• RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.• Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.• Enter "NONE" if no impacts are identified or the resource is not present.

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

No significant adverse impacts to human health and safety are expected to occur as a result of implementing the proposed alternative.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

No significant impacts to industrial, commercial and agricultural activities and production are expected to occur as a result of implementing the proposed alternative.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

The proposed action will have no significant impact on the quantity and distribution of employment.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

The limited duration of the proposed action and the nature of the activity would not have any significant positive or negative impacts to the local or state tax base. However, the typical crew consists of 45-60 persons and those crews would utilize the local services such as hotels, restaurants, fuel and grocery.

18. DEMAND FOR GOVERNMENT SERVICES:

Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services

The implementation of the proposed alternative will not generate any additional demands on services provided by Yellowstone and/or Musselshell County.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

Implementation of the proposed alternative will not conflict with any locally adopted plans.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

The subject Trust lands have moderate recreational use potential. Five of the parcels have legal public access. The two landlocked parcels are the state-owned portions of Sections 28 and 32 in T8N-R31E and the only recreational use on these tracts would be with permission from an adjoining landowner to cross their land. The proposed action may have a short term impact on recreational use quality of the tracts; however, the proposed project will take place in December 2013/January 2014 and therefore not impact hunting season. Implementation of the proposed alternative will entail approval of an approximate four week project, but is not expected to have a significant long term impact on recreational and wilderness activities on the subject parcels.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

No significant adverse impacts to density and distribution of population and housing are expected to occur as a result of implementing the proposed alternative.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

There are no native, unique or traditional lifestyles or communities in the vicinity that would be impacted by the proposed alternative.

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

The proposed alternative would not directly impact cultural uniqueness or diversity.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

The proposed action to issue a Seismic Exploration Permit would allow for the geophysical exploration of the Trust land and could potentially result in future revenue from oil and gas extraction. The Common Schools Trust will receive an \$800 surface damage payment for the parcels where Vecta is not the oil and gas lessee.

EA Checklist Prepared By:	Name: Jeff Bollman	Date: 18 December 2013
	Title: Southern Land Office Area Planner	

V. FINDING

25. ALTERNATIVE SELECTED:

After reviewing the Environmental Assessment, the proposed alternative has been selected and it is recommended that Seismic Exploration Permit #1595 be issued with the stipulations listed below. The proposed alternative can be implemented in a manner that is consistent with the long-term sustainable natural resource management of the area while also generating revenue for the common school trust.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

The potential for significant impacts from the proposed action is minimal based on the type of action proposed, the relatively short duration of the testing, its location and the minimal surface disturbance. Additionally, there were no plant or animal species of concern identified on the tract. All identified potential impacts will be avoided or minimized by utilizing the mitigations listed below and no significant adverse impacts are expected to occur as a result of implementing the proposed alternative.

The mitigation measures that will be required by the issuance of the Permit include:

1. Permittee shall contact the DNRC Southern Land Office (SLO) at least 48 hours prior to any seismic activity on state Trust lands. The contact at the SLO is: Jeff Bollman, Area Planner, jbollman@mt.gov or 406-247-4404 (office) or 406-670-4642 (cell).
2. The Permittee shall be responsible for controlling any noxious weeds introduced by Permittee's activity on state Trust land and shall prevent or eradicate the spread of those noxious weeds onto land adjoining the subject Trust land.

3. These tracts may contain significant archaeological, historic, or paleontological resources. If any of these resources are located within the direct route of the proposed seismic lines, the Permittee shall cease all activity and contact the Southern Land Office and the Department Archaeologist in Helena immediately. The DNRC reserves the right to restrict surface activity for the purpose of protecting significant cultural resources. Permittee shall not conduct seismic activities within 150 feet of a historic cabin located in the NE¼NW¼ of Section 28-8N-31E.
4. It is the responsibility of the Permittee to ensure that the seismic company that has been contracted to perform the seismic work under this Permit has all required permits including, but not limited to, a valid permit with the county and has registered its bond with the Secretary of State's Office.
5. In order to prevent the introduction of noxious weeds on state lands, all vehicles and ATVs, particularly the undercarriage, must be power-washed prior to entering the tract to assure removal of dirt and plant material and seeds.
6. Permittee shall contact surface lessee at least 48 hours in advance of any seismic activity on state lands.
7. Seismic activity may occur on dry or frozen ground only. No activity is allowed during wet or muddy conditions.
8. No vehicle oil changes or petroleum disposal shall occur on the State land.
9. All seismic vehicles will contain suitable fire extinguishers. No open burning is allowed on state land.
10. There will be no off road traffic other than that necessary to accomplish the seismographic goals. Vehicles will not be allowed to traverse steep slopes greater than 25%, areas with very thin soils that may be rutted and left open to erosion. All receiver lines will be placed on steep slopes by hand crews.
11. All gates will be left in the same position they are found and all fences that are taken down will be repaired as soon as possible. All flagging tape will be removed from the roads and fences leading into the site, along designated routes, and fence lines indicating where gates are located, once the project is completed.
12. No seismic activity will occur within 100 feet of woody draws. Permittee shall minimize impacts to woody vegetation. If the Permittee wants to cut any brush to facilitate seismic activity, they must identify the particular site and receive prior permission from the Southern Land Office.
13. Permittee shall settle all damages with the surface lessee within a reasonable time period following the completion of the seismic project.
14. Permittee shall pay the payment reduction fees for all damages sustained to the Conservation Reserve Program acreage on this tract of State land.
15. All seismic activities are prohibited within 100 feet of any water features. Should any intermittent streams be carrying water during the proposed project, an alternative route at least 100 feet from the stream will be utilized.
16. All seismic activities are prohibited within 300 feet of any structures, wells, dams, springs or oil wells, abandoned or otherwise. Additionally, seismic activities are prohibited within 150 feet of pipelines.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

☐ EIS
 ☐ More Detailed EA
 ☒ No Further Analysis

EA Checklist Approved By:	Name:	Gary Brandenburg
	Title:	Southern Land Office Land Use Specialist
Signature: /s/ Gary Brandenburg		Date: 12-18-13